

of the genus will eventually prove to be continuous from the Tian Shan Mountains north-eastward to the regions in which the animals are now known to occur*.

XLIX.—On some Mammals collected by Mr. Robin Kemp in S. Nigeria. By R. C. WROUGHTON.

THE Natural History Museum has recently received a small collection of mammals made by Mr. Robin Kemp in S. Nigeria. As the geographical region is an interesting one and the collection contains several forms sufficiently distinct to merit separate names, a short account of it may be acceptable.

1. *Scotophilus nigritellus*, de Wint.

♂. 5. 12. 1. 1. Agoulerie, Anambra Creek, S. Nigeria.

2. *Pipistrellus nanulus*, Thos.

♀. 5. 12. 1. 2-4. Agoulerie, Anambra Creek, S. Nigeria.

3. *Crocidura Manni*, Peters.

♀. 5. 12. 1. 5. Abutshi, S. Nigeria.

4. *Sciurus* sp.

♂. 5. 12. 1. 6 (yg.). Agoulerie, Anambra Creek, S. Nigeria.

Probably *rufobrachiatus*.

5. *Funisciurus* sp.

5. 12. 1. 7 (imm.).

Probably *roptorum*, Thos., but too young for identification.

6. *Tatera Kempii*, sp. n.

♀. 5. 12. 1. 8. Agoulerie, Anambra Creek, S. Nigeria.

A *Tatera* about the size of *lobengulæ*, de Wint., but in

* The *Arvicola russatus* of Radde, from the eastern Sajan Mountains, currently referred to *Erotomys*, is probably not a member of this genus. Radde describes and figures the teeth as having the angles unusually sharp as compared with ordinary "*Arvicola*" (= *Microtus*), a character which is diametrically opposed to *Erotomys*. That he understood the form of the enamel folds in this genus is shown by his figure of the teeth of *Erotomys rutillus*.

pelure, coloration, &c. much resembling *valida*, Boc. General colour above a pale brown, much shaded with black, as in *valida*, but this black tinge disappearing laterally much more suddenly than in that species. Individual hairs of back 13-15 mm. long, dark slate for fully $\frac{2}{3}$ of their length, then buff, with black tips. Under surface white (the hairs white to their bases), sharply defined. The black tinge of the back produced forward over the top of the head and over the whole face between the eyes, as in *valida*, but the black streak from the eye to the ear of that species not present. Tail much longer than head and body, almost black above, almost white beneath, throughout its whole length; little or no tuft at apex.

Skull large for the size of the animal, long and narrow. Upper incisors with a well-marked groove outside the median line.

Dimensions of the type (measured in the flesh) :—

Head and body 145 mm. ; tail 174 ; hind foot 35 ; ear 20.

Skull : greatest length 42 ; basilar length 33 ; brain-case, breadth 16 ; interorbital breadth 7 ; diastema 12.5 ; molar tooth-row 6 ; bullæ 11.

Hab. S. Nigeria.

Type. B.M. no. 5. 12. 1. 8 (a very old ♀). Collected by Mr. Robin Kemp, August 21st, 1905.

This species is intermediate in size between *valida*, Boc., from Angola, and *gracilis*, Thos., from Gambia, the only two species hitherto recorded from the western side of the continent. It is interesting to note that by the absence of a tail-tuft and its comparatively long tail it is allied to the South-African rather than to the N.-African, or even Mid-African, forms. In the Angolan forms of *Tatera* the head and body and the tail are practically of equal length.

7. *Arvicanthis rufinus*.

Mus rufinus, Temm. Esquisses, p. 163 (1853).

♂. 5. 12. 1. 9, 14, 15 ; ♀. 5. 12. 1. 10-12, 16. Agoulerie, Anambra Creek.

Temminck's description of his *Mus rufinus* from Guinea was admittedly based on semi-adult specimens and is not very full ; but Mr. Thomas, who has seen the type specimen, assures me that it is undoubtedly an *Arvicanthis*. The type locality was Elmina, on the Gold Coast. Amongst the specimens of this series are some which have the usual pale ground-colour of the back a pale buff, while the rest have it

a bright russet and are markedly larger in all measurements. This larger, brighter form in my opinion, so far as I can judge without seeing the type, represents Temminck's *rufinus*. In the absence of a really mature specimen of the smaller form, and seeing that all these individuals were taken at the same time and place, I have decided not to separate it without further evidence.

If my identification is correct the normal dimensions of *rufinus* are:—

Head and body 165 mm.; tail 150; hind foot 35; ear 20.
Skull: basilar length 32; zygomatic breadth 19; molars 6.3.

8. *Arvicanthis occidentalis*, sp. n.

♂. 4. 11. 1. 14. Bo, Sierra Leone.

This specimen was presented to the Museum some time ago by Mr. Kemp, and was provisionally identified as *rufinus*. My identification of the S.-Nigerian form as *rufinus* leaves this individual without a name.

It is smaller than even the smaller form included above in *rufinus*, which it closely resembles in coloration, though on the back it is even less rufous.

The dimensions are:—

Head and body 140 mm.; tail 117; hind foot 30; ear 17.
Skull: basilar length 27; greatest breadth 17; molars 6.5.

Hab. Bo, Sierra Leone.

Type. ♂. 4. 11. 1. 14. An old individual with much worn teeth taken by Mr. Kemp, 21st January, 1904, and presented to the Museum.

Its duller, paler colour and smaller size of both body and skull combined with larger molars suffice to distinguish it unmistakably from *rufinus*.

9. *Arvicanthis fuscatus*, sp. n.

♂. 5. 12. 1. 17-18. Agoulerie, Anambra Creek, S. Nigeria.

An *Arvicanthis* of the *barbarus* group, but having the pale lines practically continuous; about the same size as the specimen in the Museum collection identified by Mr. Thomas as *zebra* (P. Z. S. 1903, i. p. 298), but much darker in general appearance. The general ground-colour "bistre," the pale stripes buff, continuous, but showing signs of breaking up into spots towards the rump; a broad, black, median dorsal stripe as in *pulchellus*. Eye-ring and a small but well-marked area on the sides of the muzzle concolorous with the

pale dorsal stripes; throat, belly, and under surface generally, almost the same colour, only slightly paler.

Skull markedly smaller than in *zebra*, closely resembling that of *Dunni*, than which it is very slightly larger, but has markedly smaller bullæ.

The following table shows comparative dimensions:—

	<i>fasciatus</i> .		<i>zebra</i> .	<i>Dunni</i> .
	No. 25.	No. 27.		
Head and body	110	95	106	90
Tail	120	120	?	70
Hind foot	27½	27½	25	23
Ear	16	15	15	14
Skull:				
Greatest length	28.5	28	31	28
Basilar length	22.5	22	23.5	22
Zygomatic breadth	14	14	13	13
Length of upper molar series.	4.8	4.8	5.3	4.9
Antero-posterior length of bullæ	5	5	5.8	6
Age and sex	Very old ♂.	Ad. ♂.	Ad. ♂.	Very old ♂.

Hab. Agoulerie, Anambra Creek, S. Nigeria.

Type. 5.12.1.17. Very old ♂. Two specimens taken by Mr. Robin Kemp, 21st August, 1905.

10. *Arvicanthis pulcher*, sp. n.

♂. 5.12.1.19–20. Agoulerie, Anambra Creek.

Gray's type of *pulchellus* is in the Museum collection (a stuffed specimen), but the skull has only now become available. It shows that the type was a quite young animal. There is no exact record of locality beyond West Africa, but another specimen, presented to the Museum by Mr. E. R. Alston, from "Fantee," agrees closely with Gray's type in all essential characters, and is a somewhat older individual. From these I venture to deduce the following dimensions for *pulchellus* (the dimensions in italics are from actual measurement on the type):—

Head and body 115 mm.; tail 110; *hind foot* 27; ear 14.

Skull: greatest length 30; *zygomatic breadth* 14; *molars* 5.

The specimens sent by Mr. Kemp are very much larger and stouter all round and their colouring more rufous, especially on the rump, and the tail is longer than the head and body. The following are dimensions recorded by Mr. Kemp:—

Head and body 130 mm.; tail 140; hind foot 30; ear 19.

Skull: greatest length 32; basilar length 24.5; zygomatic breadth 15; upper tooth-row 5.4; bullæ 5.

Hab. Agoulerie, Anambra Creek, S. Nigeria.

Type. B.M. no. 5. 12. 1. 19 (a very old ♂). Collected by Mr. Robin Kemp, 22nd July, 1905. Two specimens.

11. *Cricetomys gambianus*, Waterh.

♀. 5. 12. 1. 21. Agoulerie, Anambra Creek, S. Nigeria.

12. *Mus*.

5. 12. 1. 22-26. Agoulerie, Anambra Creek, S. Nigeria.
These belong to the multimammate group of rats.

L.—*New and little-known Species of Heterocera from the East.* By Colonel C. SWINHŌE, M.A., F.L.S., &c.

Family Geometridæ.

Zamarada tenuimargo, nov.

♂. Palpi, frons, top of head, thorax, and abdomen pale chocolate-colour: wings of a uniform bright green; a minute black dot at the end of each cell; costa of fore wings chocolate; outer margin and cilia of both wings of the same colour; the outer marginal line on the hind wings is double throughout, but on the fore wings it is double on the upper half and on the lower third filled in with chocolate, forming a narrow marginal band containing a regular row of white dots: the wings below are slightly paler, the margins darker, without any white dots: body and legs pale chocolate.

Expanse of wings $1\frac{1}{10}$ inch.

Khasia Hills; eight examples.

Coloured as in *Z. cosmia*, Swinhoe, of which I have a long series from Assam.

Boarmia nobilitaria.

Boarmia nobilitaria, Staud. Iris, v. p. 173 (1892).

Kashmir; one example.

The type came from Central Asia; not previously recorded from the Indian Region.

Agathia aquisecta, nov.

♀. Antennæ, head, and body pale chocolate-red; fore part of thorax and both wings above bright emerald-green, bands